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| 10/800,420 | 03/12/2004 | Raymond H. Kraft | A126.253.102 / 076111-030 | 8417 |

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| EXAMINER | |
|---|---|
| LEE, JOHN W | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2624 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/800,420 | KRAFT, RAYMOND H. | |
| | Examiner | Art Unit | |
| | JOHN Wahnkyo LEE | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *30 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) *8-15 and 22-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 16-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-7 and 16-21, drawn to a method of fitting acquired fiducial data, classified in class 382, subclass 294.

   II. Claims 22-28, drawn to a method of fitting acquired fiducial data, classified in class 382, subclass 295.

2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination I has separate utility such as fitting a fiducial grid model to data acquired by an imaging apparatus, and subcombination II has separate utility such as positioning features relative to the set of fiducials on the fiducial plate. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to

provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

1. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their different classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention**.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. Applicant's election without traverse of group I in the reply filed on 23 January 2009 is acknowledged.

***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 19 September 2008 has been entered.

### *Claim Rejections - 35 USC § 101*

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1, 3 and 4 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent[1] and recent Federal Circuit decisions[2] indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. Not all of the claim limitations are tied to a structural embodiment or have a necessary transformation of the subject matter.

### *Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 5, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Brandle et al. ("Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots").

Regarding claim 1, Brandle discloses a method of firing acquired fiducial data to a set of fiducials on a fiducial plate; said method comprising (abstract): fitting a fiducial grid model (Chapter 1; page 358, "grid ζ") to data (chapter 1; page 358, "spot array") acquired by an imaging apparatus (page 358, "imaging device") captured such that features are positioned (page 358, "represented as a MXN matrix S") in space (page 358, "Cartesian spatial coordinates (x,y)") relative to the fiducial plate (page 358, "nodes in {1… IG"} X {1 ... JG}); establishing a conversion (Chapter 3; page 361, "grid rotation angle" and "guide translation vector") from acquired coordinates (page 358, "Cartesian spatial coordinates (x,y)") to ideal fiducial coordinates (section 3.4; page 363, "node (i,j)"); and calculating an absolute location (Chapter 3; page 361, "locations") of identified acquired image feature (page 361; "guide spot") centers relative to the fiducial plate in fiducial plate coordinates (page 358, "nodes in {1… IG"} X {1 ... JG}).

Regarding claim 5, Brandle discloses comprising assuming that a rotation of said imaging apparatus relative to a fiducial grid is negligible (page 359, "Rotations …").

Regarding claim 16, claim 16 is analogous and corresponds to claim 1. See rejection of claim 1 for further explanation.

Regarding claim 20, claim 20 is analogous and corresponds to claim 5. See rejection of claim 5 for further explanation.

### *Claim Rejections - 35 USC § 103*

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2-3, 17-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandle et al. ("Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots") in view of Segman (US 6,178,272)

Regarding claim 2, Brandle discloses all the previous claim limitations except the ones specified in claim to. However, Segman discloses said fitting comprises identifying fiducial coordinates for each fiducial captured in said data acquired by said imaging apparatus (col. 22, lines 65-67; col. 23, lines 1-7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Segman's invention in Brandle's invention to provide a method applicable and easily extendable as suggested by Brandle (chapter 5; page 366).

Regarding claim 3, Segman further discloses further comprising selectively iterating said identifying coordinates for each fiducial and said calculating an absolute

location of identified acquired image feature centers (Fig. 3-(11), "… repeating steps (1) through (10)").

Regarding claim 17, claim 17 is analogous and corresponds to claim 2. See rejection of claim 2 for further explanation.

Regarding claim 18, claim 18 is analogous and corresponds to claim 3. See rejection of claim 3 for further explanation.

Regarding claim 21, claim 21 is analogous and corresponds to claim 3. See rejection of claim 3 for further explanation.

12. Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandle et al. ("Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots")in view of Kwon et al. (US 5,091,972).

Regarding claim 4, Brandle discloses all the previous claim limitations except the one specified in claim 4. However, Kwon disclose that said calculating comprises utilizing a linear least squares operation (claims 1 and 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Kown's invention in Brandle's invention to provide an efficient and quick method of the fit parameters as suggested by Kwon (col. 2, lines 29-31).

Regarding claim 19, claim 19 is analogous and corresponds to claim 4. See rejection of claim 4 for further explanation.

13. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandle et al. ("Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots")in view of Correa at al. (US 6,340,114).

Regarding claim 6, Brandle discloses all the previous claim limitations except the one recited in claim 6. However, Correa discloses a charge-coupled device camera (col. 4, line 1, "CCD").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Correa's invention in Brandle's invention to provide light gathering efficiency and immediate image availability.

Regarding claim 7, Correa further discloses that said imaging apparatus comprises a complementary metal-oxide semiconductor device (col. 4, line 3, "CMOS").

## ***Conclusion***

14. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN Wahnkyo LEE whose telephone number is (571)272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Wahnkyo Lee/
Examiner, Art Unit 2624

/Samir A. Ahmed/
Supervisory Patent Examiner, Art Unit 2624